

Isolation of Quinupristin-Dalfopristin-resistant *Enterococcus faecium* from Human Stool Specimens and Retail Chicken Products in the United States: Use of Virginiamycin May Compromise New Human Antimicrobial Agent

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Objective: In 1999, quinupristin-dalfopristin (QD) was approved for the treatment of life-threatening vancomycin-resistant *Enterococcus faecium* infections in humans in the United States. QD is the first streptogramin antimicrobial agent approved in the United States. However, another streptogramin, virginiamycin, has been used since 1974 to promote growth in chickens and other food animals.

Procedure: Between July 1998 and June 1999, laboratories in Georgia, Maryland, Minnesota, and Oregon used Gram positive selective media and QD-resistant selective media to culture human stools and chickens purchased from grocery stores. Isolates of enterococci were forwarded to CDC for species identification and antimicrobial susceptibility testing using broth microdilution.

Results: Enterococci were isolated from 229 (72%) of 320 human stools using Gram positive selective media; of the 154 isolates tested, 39 (25%) were *E. faecium*, and 3 (8%) of these were QD-resistant. The carriage rate of QD-resistant *E. faecium* in human stools was 1%. With QD-resistant selective media, enterococci were isolated from 327 (80%) of 410 chickens; of the 233 isolates tested, 189 (81%) were *E. faecium*, and 178 (94%) were QD resistant. The carriage rate of QD-resistant *E. faecium* in chickens was 61%.

Conclusions: Chickens represent a vast reservoir of QD-resistant *E. faecium*, to which humans are exposed. Continued use of virginiamycin to promote the growth of chickens and other food animals may compromise the effectiveness of QD, a new antibiotic for the treatment of life-threatening infections in humans.

Suggested citation:

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